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AMENDMENTS TO THE CLAIMS

1.   Cancelled.

2.   (Currently amended) A method of processing a thermal element group to create a printed image, the method comprising:

 providing printing parameters for a supply; by providing a microstrobe number and microstrobe energy values.

 selecting a plurality of thermal elements to make up a selected thermal element group;

 determining a dot history pattern, the dot history pattern based on the selected thermal element group made up of the plurality of thermal elements;

 determining a thermal element number;

 generating a packed table, the packed table comprising values based on the supply printing parameters, selected thermal element group, the dot history pattern, and the thermal element number; and

 storing the packed table in a printer memory for use in creating a printed image.2. The method of Claim 1, wherein the providing the printing parameters step comprises providing a microstrobe number and microstrobe energy values.

3.   (Currently amended) The method of Claim 1,2, wherein the providing the printing parameters step includes providing the printing parameters using a memory cell associated with the supply.

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4.   (Currently amended) The method of Claim ~~1~~,2, wherein the determining the dot history pattern step comprises determining adjacent thermal elements by determining a plurality of sites associated with the thermal elements adjacent the selected thermal elements.

5.   (Currently amended) The method of Claim ~~1~~,2, wherein the determining the dot history pattern step comprises determining prior generation selected thermal elements by determining a plurality of sites associated with the prior generation of the selected thermal elements.

6.   (Currently amended) The method of Claim 4, wherein the determining the dot history pattern step comprises determining prior generation adjacent thermal elements by determining a plurality of sites associated with the prior generation of the adjacent thermal elements.

7.   (Currently amended) The method of Claim ~~1~~,2, further comprising determining an index length based on the thermal element number.

8.   (Currently amended) The method of Claim ~~1~~,2, further comprising determining a plurality of index values based on the determined dot history pattern.

9.   (Currently amended) The method of Claim ~~1~~,2, further comprising determining a total energy value based on an amount of energy needed for pre-heating each thermal element.

10.   (Currently amended) The method of Claim ~~1~~,2, further comprising determining the packed table based on a number of possible energy value combinations and a packed thermal element number.

11.   (Currently amended) The method of Claim ~~1~~,2, further comprising determining an index length such that the length equals a number of possible energy value combinations for each of the plurality of thermal elements raised to a power equal to the thermal element number.

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12.   (Currently amended) The method of Claim 11, wherein the selecting a plurality of

thermal elements step includes selecting at least one of a plurality of consecutive thermal

elements, sequential thermal elements, and adjacent thermal elements .

13.   (Original) A method of processing a thermal element group to create a printed

image, the method comprising:

accessing, from a specific supply, printing parameters comprising a microstrobe number

and microstrobe energy values and storing the microstrobe number and microstrobe energy

values in a printer memory;

determining a dot history pattern;

determining a number of thermal elements for the thermal element group;

assigning thermal elements to the thermal element group based on the number of thermal

elements determined for the thermal element group;

packing the thermal element group into the dot history pattern to generate a packed dot

history pattern;

determining a packed thermal element number based on the packed dot history pattern;

creating a packed index having a packed index length, the packed index length based on

the packed thermal element number, and determining packed index values to occupy the packed

index length, the packed index values based on the packed dot history pattern;

dividing microstrobes, the microstrobes based on the microstrobe number stored in the

printer memory, such that divided microstrobes are produced;

assigning packed binary pulse numbers to the divided microstrobes based on a strobe

pattern, the packed binary pulse numbers corresponding to each of the packed index values

occupying the packed index length;

determining packed strobe numbers based on the packed binary pulse numbers, the packed strobe numbers corresponding to each of the packed index values occupying the packed index length;

wherein the printed image is created by using a bit map pattern, the packed dot history pattern, the packed index values, the packed strobe numbers, and the microstrobe energy values.

14.   (Original) The method of Claim 13, further comprising storing one or more of the bit map pattern, the packed dot history pattern, the packed index values, and the packed strobe numbers in a printer memory.

15.   (Original) The method of Claim 13 further comprising loading a cartridge containing a supply of ribbon and containing the printing parameter into a printer.

16.   (Original) The method of Claim 15, further comprising storing the printing parameters in a memory cell secured to the cartridge.

17.   (Original) The method of Claim 16, further comprising erasing the memory cell after exhausting the supply of ribbon contained within the cartridge.

18.   (Original) The method of Claim 16, further comprising unlocking an electronic lock in the memory cell with an electronic key associated with the printer.

19.   (Original) The method of Claim 18, further comprising accessing the electronic key and unlocking, using the key, the supply specific printing parameters stored in the memory cell.

20.   (Original) The method of Claim 16, further comprising selecting the memory cell from one of a group consisting of a solid-state memory device, a RAM, a non-volatile RAM, an EEPROM, and a flash memory.

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21.   (Original) The method of Claim 16, further comprising providing an ergonomically designed supply cartridge.

22.   (Original) The method of Claim 13, wherein the assigning step further comprises assigning consecutive thermal elements.

23.   (Original) A method of processing a thermal element group to create a printed image, the method comprising:

accessing, from a specific supply, printing parameters comprising a microstrobe number and microstrobe energy values and storing the microstrobe number and microstrobe energy values in a printer memory;

determining a dot history pattern;

determining a number of thermal elements for the thermal element group;

assigning thermal elements to the thermal element group based on the number of thermal elements determined for the thermal element group;

packing the thermal element group into the dot history pattern to generate a packed dot history pattern;

determining a packed thermal element number based on the packed dot history pattern;

creating a packed index having a packed index length, the packed index length based on the packed thermal element number, and determining packed index values to occupy the packed index length, the packed index values based on the packed dot history pattern;

dividing microstrobes, the microstrobes based on the microstrobe number stored in the printer memory, such that divided microstrobes are produced;

assigning packed binary pulse numbers to the divided microstrobes based on a strobe

pattern, the packed binary pulse numbers corresponding to each of the packed index values

occupying the packed index length;

determining packed strobe numbers based on the packed binary pulse numbers, the

packed strobe numbers corresponding to each of the packed index values occupying the packed

index length, until an entire raster line of packed strobe numbers is ascertained;

wherein the printed image is created by using a bit map pattern, the packed dot history pattern,

the packed index values, the entire raster lines of the packed strobe numbers, and the microstrobe

energy values.

24.   (Original) The method of Claim 23, further comprising storing one or more of the

bit map pattern, the packed dot history pattern, the packed index values, and the entire raster

lines of the packed strobe numbers in printer memory.

25.   (Original) The method of Claim 23, further comprising creating the printed

image after two or more of the entire raster lines have been printed.

26.   (Original) The method of Claim 23, wherein the method further comprises:

using a component to aid in processing, the component selected from a group

consisting of a keyboard, a mouse, an operator, a liquid crystal display, and a monitor.

27.   (Original) The method of Claim 23, wherein creating the printed image includes

using the bit map pattern, and the bit map pattern comprises values of bit map pattern data.

28.   (Original) The method of Claim 27, further comprising representing the bit map

pattern data as a plurality of ones and zeros.

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29. (Original) The method of Claim 28, further comprising providing an instruction, based on the representing of the bit map pattern data, to either generate a dot or not generate a dot.